



Complete Summary

TITLE

Eye care: percentage of patients aged 18 years and older with a diagnosis of uncomplicated cataract who had cataract surgery and had any of a specified list of surgical procedures in the 30 days following cataract surgery which would indicate the occurrence of any of the following major complications: retained nuclear fragments, endophthalmitis, dislocated or wrong power IOL, retinal detachment, or wound dehiscence.

SOURCE(S)

American Academy of Ophthalmology, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Eye care physician performance measurement set. Chicago (IL): American Medical Association, National Committee for Quality Assurance; 2007 Oct. 36 p. [42 references]

Measure Domain

PRIMARY MEASURE DOMAIN

Outcome

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure is used to assess the percentage of patients aged 18 years and older with a diagnosis of uncomplicated cataract who had cataract surgery and had any of a specified list of surgical procedures in the 30 days following cataract surgery which would indicate the occurrence of any of the following major complications: retained nuclear fragments, endophthalmitis, dislocated or wrong power intraocular lens (IOL), retinal detachment, or wound dehiscence.

RATIONALE

1. Scientific basis for assessing short-term complications following cataract surgery

Complications that may result in a permanent loss of vision following cataract surgery are uncommon. This short-term outcomes of surgery indicator seeks to identify those complications from surgery that can reasonably be attributed to the surgery and surgeon and which reflect situations which - if untreated - generally result in significant avoidable vision loss that would negatively impact patient functioning. Further, it seeks to reduce surgeon burden and enhance accuracy in reporting by focusing on those significant complications that can be assessed from administrative data alone and which can be captured by the care of another physician or the provision of additional, separately coded, post-operative services. Finally, it focuses on patient safety and monitoring for events that, while hopefully uncommon, can signify important issues in the care being provided. For example, the need to reposition or exchange an intraocular lens (IOL) reflects in part "wrong power" IOL placement, a major patient safety issue.

In order to achieve these ends, the indicator excludes patients with other known, pre-operative ocular conditions that could impact the likelihood of developing a complication. Based on the results of the Cataract Appropriateness Project at RAND, other published studies, and one analysis performed on national managed care organization (MCO) database, the exclusion codes would preserve over 2/3 of all cataract surgery cases for analysis. Thus, this provides a "clean" indicator that captures care for the large majority of patients undergoing cataract surgery.

This indicator differs from traditional Physician Quality Reporting Initiative (PQRI) measures in that NO self-reporting is required and thus significantly reduces implementation burdens on providers while greatly simplifying the audit complexity for Centers for Medicare & Medicaid Services (CMS) and other payors. As such, it represents an alternative form of performance improvement measurement that can be potentially used for other areas. Finally, the algorithms to be used for this analysis are already available, through work both by one national MCO and internal quality analyses at several institutions.

2. Evidence for gap in care

The advances in technology and surgical skills over the last 30 years have made cataract surgery much safer and more effective. An analysis of a single company's database (commercial age MCO) demonstrated that the rate of complications found for this indicator was approximately 1 to 2%. Nevertheless, as noted above, the occurrence of one of these events is associated with a significant potential for vision loss that is otherwise avoidable. Furthermore, with an annual volume of 2.8 million cataract surgeries in the US, a 2% rate would mean that over 36,000 surgeries are accompanied by these complications (2/3 of 56,000 surgeries).

A synthesis of the literature published prior to 1992 found weighted mean complication rates among all patients undergoing cataract surgery of 0.13% for endophthalmitis, 0.3% for bullous keratopathy, 1.4% clinically detectable

cystoid macular edema (CME), 3.5% for angiographically demonstrated CME, 0.7% for retinal detachment, and 1.1% for IOL dislocation. Bullous keratopathy and CME are not included in this indicator because they are conditions that are almost always temporary and resolve without additional intervention through additional procedures and associated care in this population of patients without prior known ocular conditions.

Additional studies similarly demonstrate the low occurrence of complications, including many that are temporary in nature and without a significant impact on patient outcomes. A national survey of over 100 hospitals from 1997 to 1998 found the following results on 18,454 patients 50 years old or older. Seventy-seven percent of these patients had surgery performed by phacoemulsification. Rates for events that occurred during surgery were 4.4% for posterior capsule rupture and vitreous loss, 1.0% for incomplete cortical cleanup, 1.0% for anterior chamber hemorrhage and/or collapse, and 0.77% for iris damage. Short-term (within 48 hours) perioperative complications included corneal edema (9.5%), increased IOP (7.9%), uveitis (5.6%), wound leak (1.2%), hyphema (1.1%), and retained lens material (1.1%).

The European Cataract Outcomes Study reported an average rate of intraoperative complications of 3.1% in 1999, with a rate of 1.8% for posterior capsule rupture and 1.3% for vitreous loss (Results of the European Cataracts Outcomes Study, 2000. Unpublished data). This study was conducted in 14 countries with up to 40 participants over the years 1995 to 1999, and it collected operative and follow-up information on a total of 8,646 patients, including 3,033 patients in 1999.

A retrospective study from New Zealand of 1,793 consecutive patients undergoing phacoemulsification reported a rate of 1.8% for posterior capsule rupture and a rate of 1.2% for rhegmatogenous retinal detachment.

The following clinical recommendation statements are quoted verbatim from the referenced clinical guidelines and represent the evidence base for the measure:

This is an outcomes measure, where lower rates translate into higher performance.

As such, there are no statements in the guideline specific to this measurement topic.

PRIMARY CLINICAL COMPONENT

Cataract surgery; complications (retained nuclear fragments, endophthalmitis, dislocated or wrong power intraocular lens [IOL], retinal detachment, wound dehiscence)

DENOMINATOR DESCRIPTION

All patients aged 18 years and older who had cataract surgery and no significant pre-operative ocular conditions impacting the surgical complication rate (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Patients who had one or more specified operative procedures for any of the following major complications within 30 days following cataract surgery: retained nuclear fragments, endophthalmitis, dislocated or wrong power intraocular lens (IOL), retinal detachment, or wound dehiscence

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- A systematic review of the clinical literature
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

NATIONAL GUIDELINE CLEARINGHOUSE LINK

- [Cataract in the adult eye.](#)

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

American Academy of Ophthalmology, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Eye care physician performance measurement set. Chicago (IL): American Medical Association, National Committee for Quality Assurance; 2007 Oct. 36 p. [42 references]

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Internal quality improvement

Application of Measure in its Current Use

CARE SETTING

Ambulatory Care
Hospitals
Physician Group Practices/Clinics

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Physicians

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Individual Clinicians

TARGET POPULATION AGE

Age greater than or equal to 18 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Unspecified

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

Unspecified

UTILIZATION

Unspecified

COSTS

Unspecified

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Effectiveness

Safety

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

All patients aged 18 years and older who had cataract surgery and no significant pre-operative ocular conditions impacting the surgical complication rate

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

All patients aged 18 years and older who had cataract surgery and no significant pre-operative ocular conditions impacting the surgical complication rate

Exclusions

Patients with any of the following comorbid conditions impacting the surgical complication rate (see the Denominator Exclusions spreadsheet in the original measure documentation)

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Clinical Condition

Encounter

Therapeutic Intervention

DENOMINATOR TIME WINDOW

Time window is a single point in time

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Patients who had one or more specified operative procedures for any of the following major complications within 30 days following cataract surgery: retained nuclear fragments, endophthalmitis, dislocated or wrong power intraocular lens (IOL), retinal detachment, or wound dehiscence

Exclusions

None

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Fixed time period

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Not Individual Case

OUTCOME TYPE

Adverse Outcome

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure

SCORING

Rate

INTERPRETATION OF SCORE

Better quality is associated with a lower score

ALLOWANCE FOR PATIENT FACTORS

Unspecified

STANDARD OF COMPARISON

Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

Measure #3 cataracts: complications within 30 days following cataract surgery requiring additional surgical procedures.

MEASURE COLLECTION

[The Physician Consortium for Performance Improvement® Measurement Sets](#)

MEASURE SET NAME

[Eye Care Physician Performance Measurement Set](#)

SUBMITTER

American Medical Association on behalf of the American Academy of Ophthalmology, the National Committee for Quality Assurance, and the Physician Consortium for Performance Improvement®

DEVELOPER

American Academy of Ophthalmology
National Committee for Quality Assurance
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FUNDING SOURCE(S)

Unspecified

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FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Conflicts, if any, are disclosed in accordance with the Physician Consortium for Performance Improvement® conflict of interest policy.

INCLUDED IN

Ambulatory Care Quality Alliance

ADAPTATION

Measure was not adapted from another source.

RELEASE DATE

2007 Oct

MEASURE STATUS

This is the current release of the measure.

SOURCE(S)

American Academy of Ophthalmology, Physician Consortium for Performance Improvement®, National Committee for Quality Assurance. Eye care physician performance measurement set. Chicago (IL): American Medical Association, National Committee for Quality Assurance; 2007 Oct. 36 p. [42 references]

MEASURE AVAILABILITY

The individual measure, "Measure #3 Cataracts: Complications within 30 Days Following Cataract Surgery Requiring Additional Surgical Procedures," is published in the "Eye Care Physician Performance Measurement Set." This document and technical specifications are available in Portable Document Format (PDF) from the American Medical Association (AMA)-convened Physician Consortium for Performance Improvement® Web site: www.physicianconsortium.org.

For further information, please contact AMA staff by e-mail at cqi@ama-assn.org.

NQMC STATUS

This NQMC summary was completed by ECRI Institute on February 13, 2008. The information was verified by the measure developer on April 22, 2008.

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Date Modified: 11/3/2008

